

## ABSTRACT

A plasma generating electrode 1 includes at least two plate-shaped unit electrodes 2 each of which faces each other and is capable of generating plasma upon application of a voltage between the unit electrodes 2, at least one of the unit electrodes 2 each of which faces each other including a plate-shaped ceramic dielectric 3 having a plurality of grooves 5 and/or a plurality of recesses 6 formed in at least one surface, and a conductive film 4 disposed inside the ceramic dielectric 3, the plasma generating electrode 1 capable of generating high-density plasma at edges 9 formed by a surface 21 of the ceramic dielectric 3 and side surfaces 22 of the grooves 5 and/or the recesses 6 upon application of a voltage between the unit electrodes 2, the high-density plasma having a density higher than that of plasma generated between the unit electrodes 2 in an area other than the vicinity of the edges 9.